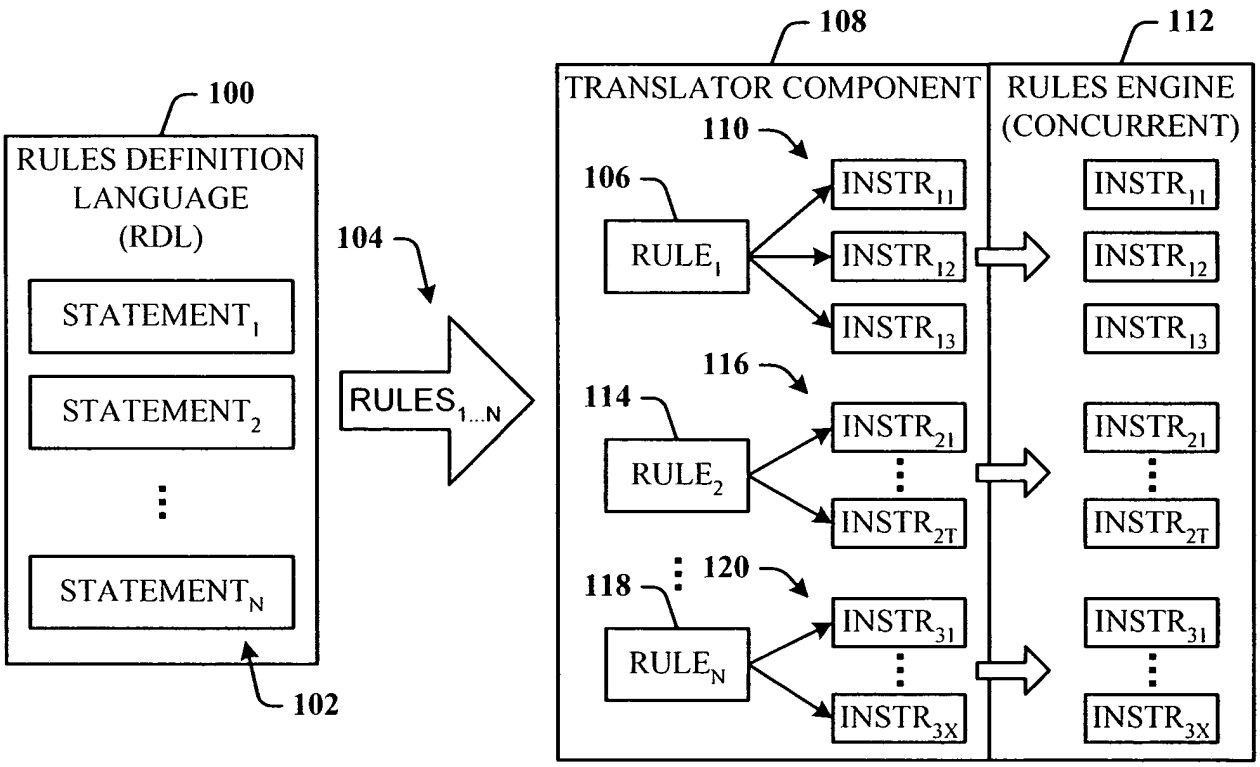

100
RULES DEFINITION LANGUAGE (RDL)
STATEMENT1
STATEMENT2
STATEMENTN
102
104
RULES1...N
108
TRANSLATOR COMPONENT
110
106
RULE1
INSTR11
INSTR12
INSTR13
116
114
RULE2
INSTR21
INSTR2T
120
118
RULEN
INSTR31
INSTR3X
112
RULES ENGINE (CONCURRENT)
INSTR11
INSTR12
INSTR13
INSTR21
INSTR2T
INSTR31
INSTR3X

FIG. 1

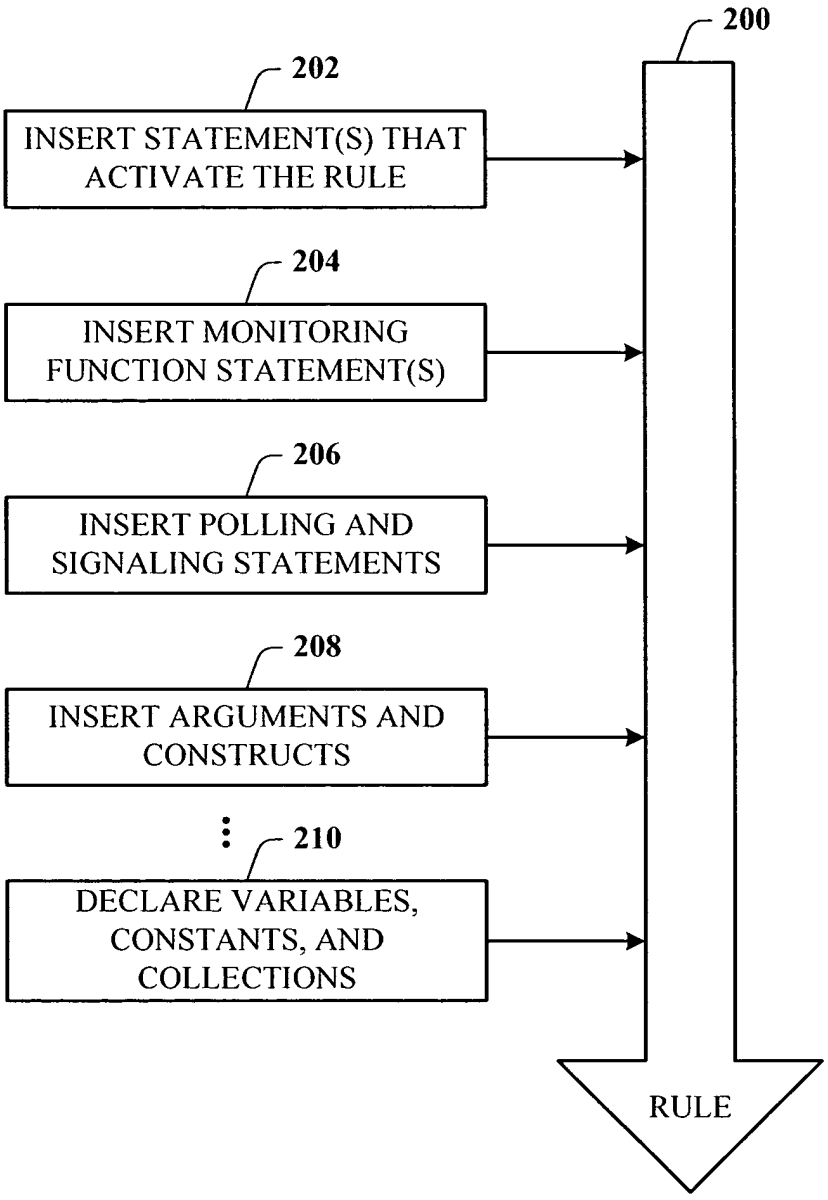

200
202
INSERT STATEMENT(S) THAT ACTIVATE THE RULE
204
INSERT MONITORING FUNCTION STATEMENT(S)
206
INSERT POLLING AND SIGNALING STATEMENTS
208
INSERT ARGUMENTS AND CONSTRUCTS
210
DECLARE VARIABLES, CONSTANTS, AND COLLECTIONS
RULE

FIG. 2

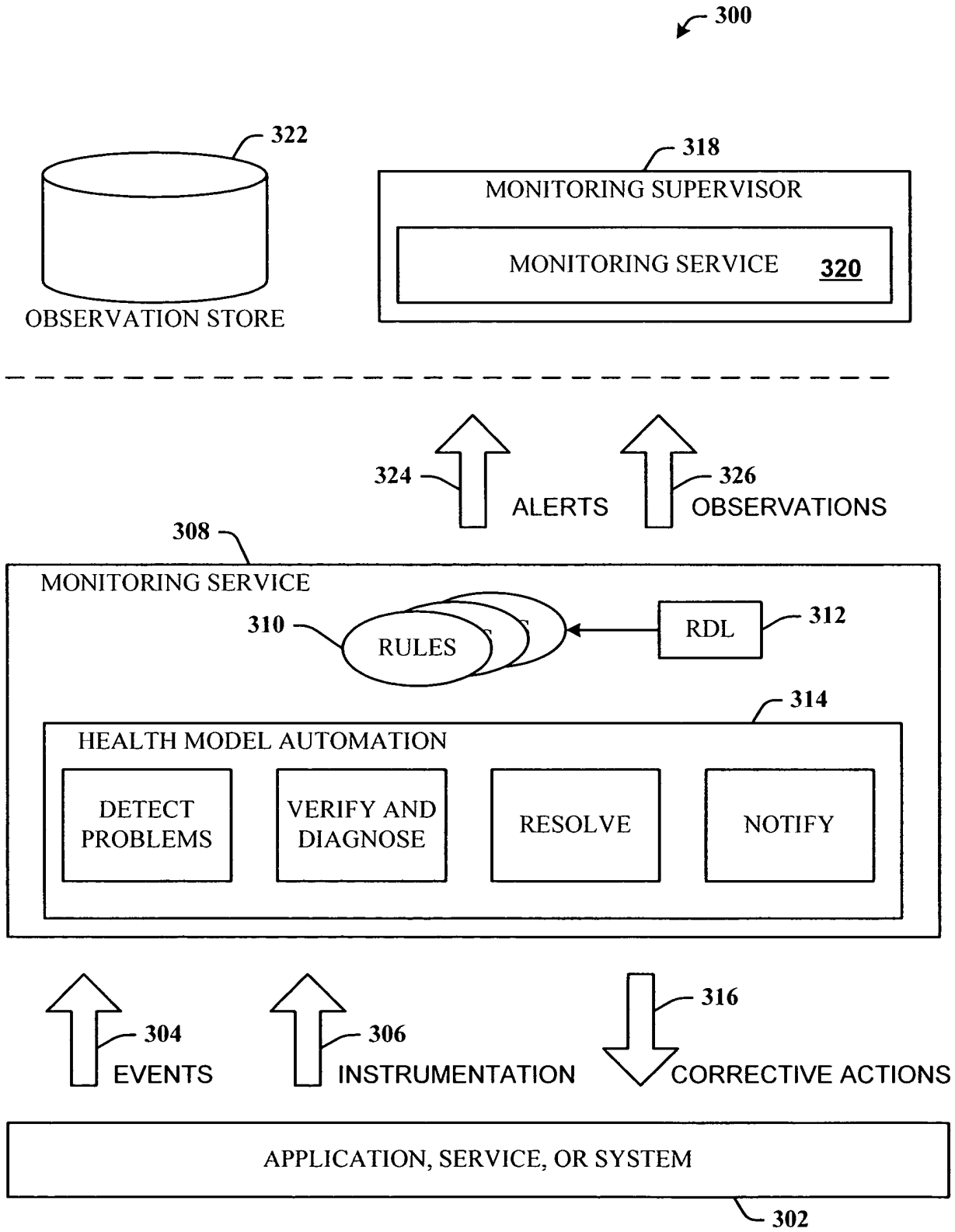

300
322
OBSERVATION STORE
318
MONITORING SUPERVISOR
MONITORING SERVICE
320
324
ALERTS
326
OBSERVATIONS
308
MONITORING SERVICE
310
RULES
RDL
312
314
HEALTH MODEL AUTOMATION
DETECT PROBLEMS
VERIFY AND DIAGNOSE
RESOLVE
NOTIFY
304
EVENTS
306
INSTRUMENTATION
316
CORRECTIVE ACTIONS
APPLICATION, SERVICE, OR SYSTEM
302

FIG. 3

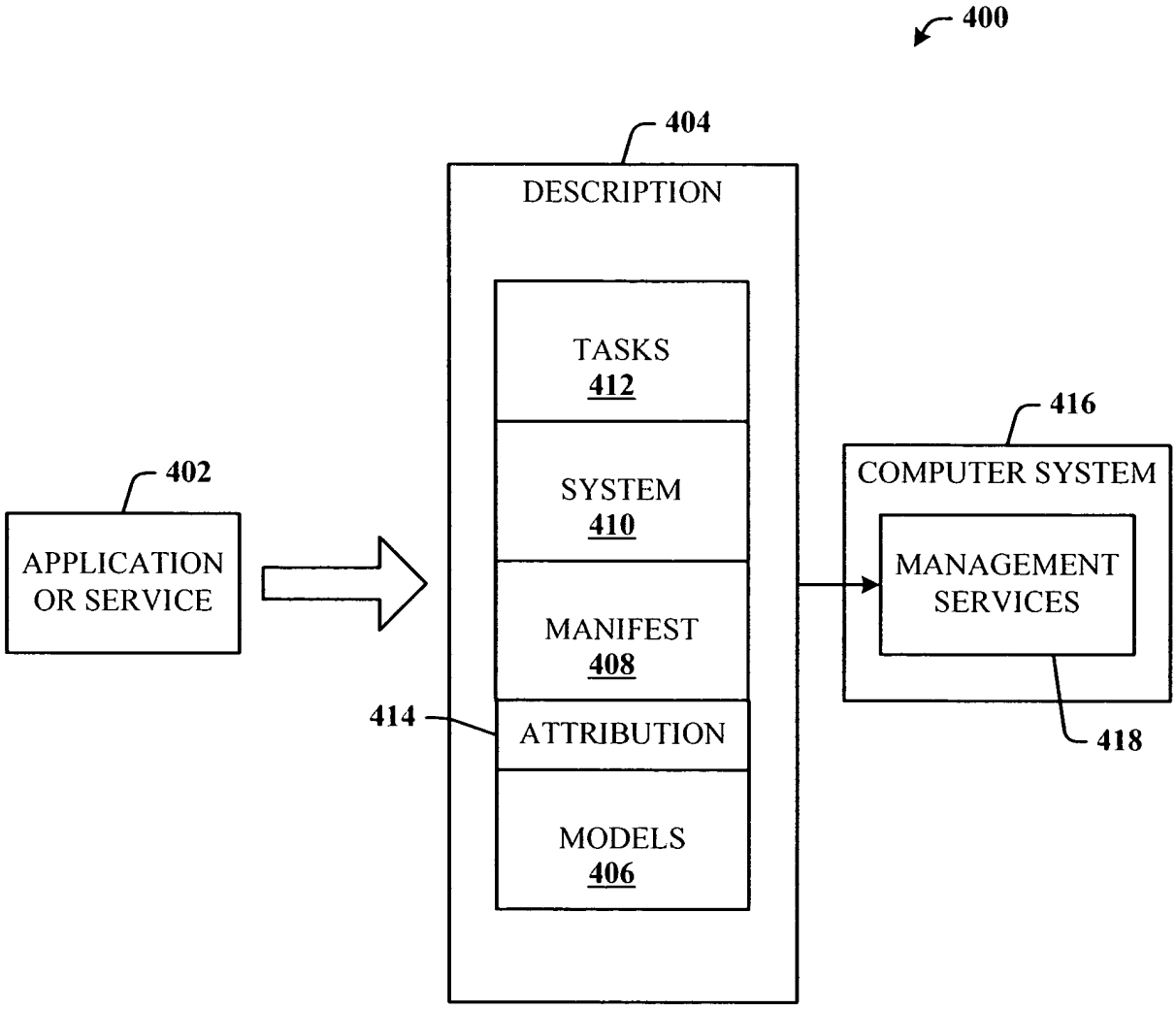

400
404
DESCRIPTION
TASKS
412
SYSTEM
410
MANIFEST
408
414
ATTRIBUTION
MODELS
406
402
APPLICATION
OR SERVICE
416
COMPUTER SYSTEM
MANAGEMENT
SERVICES
418

FIG. 4

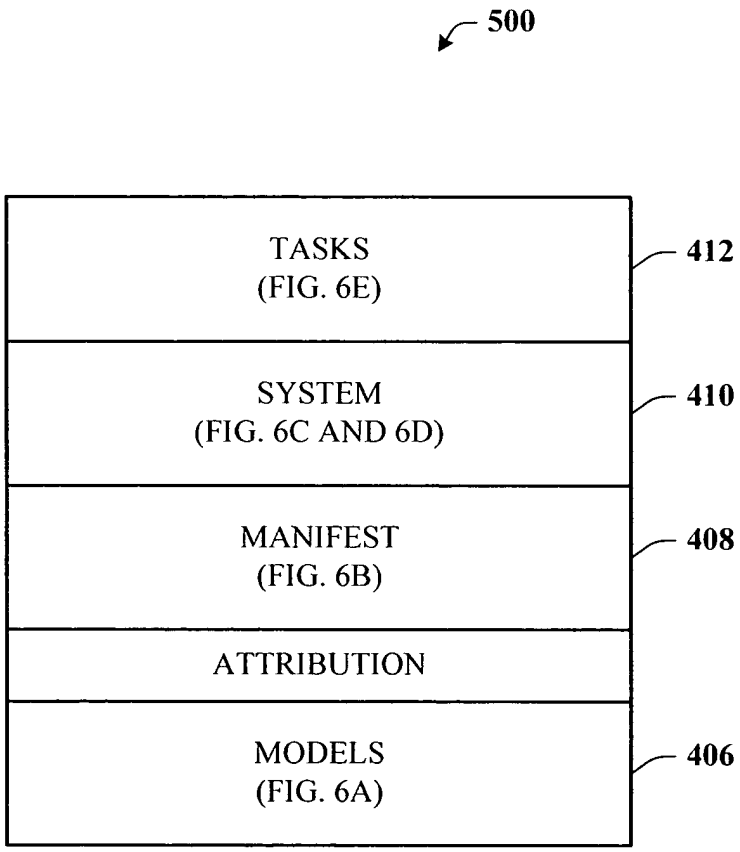

500
TASKS
(FIG. 6E)
412
SYSTEM
(FIG. 6C AND 6D)
410
MANIFEST
(FIG. 6B)
408
ATTRIBUTION
MODELS
(FIG. 6A)
406

FIG. 5

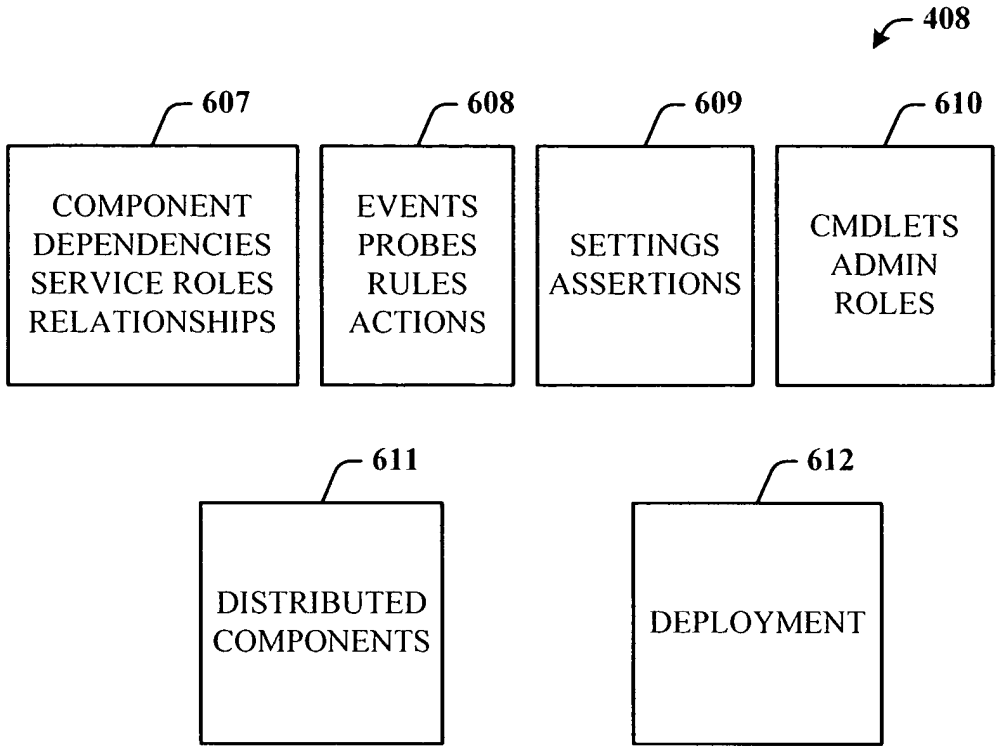

408
607
608
609
610
COMPONENT DEPENDENCIES SERVICE ROLES RELATIONSHIPS
EVENTS PROBES RULES ACTIONS
SETTINGS ASSERTIONS
CMDLETS ADMIN ROLES
611
612
DISTRIBUTED COMPONENTS
DEPLOYMENT

FIG. 6B

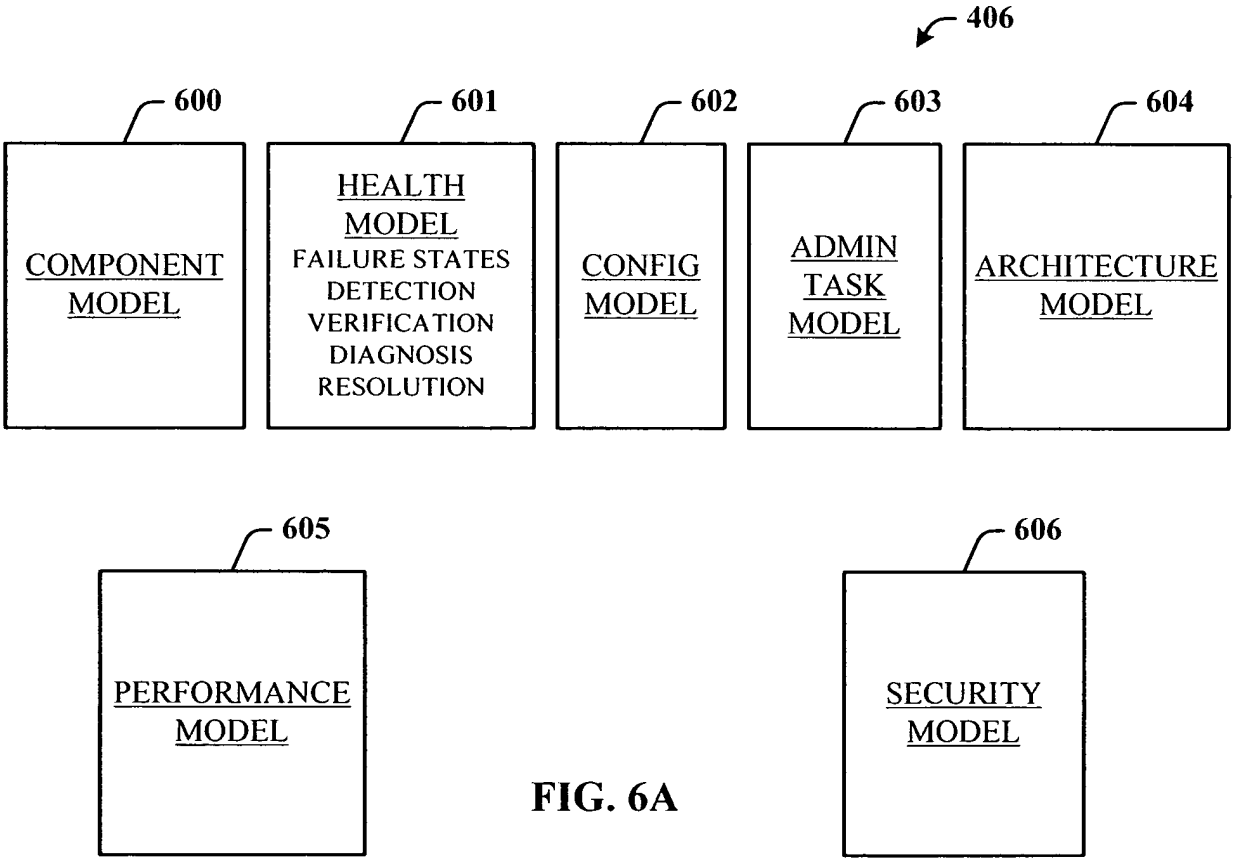

406
600
601
602
603
604
COMPONENT MODEL
HEALTH MODEL
FAILURE STATES
DETECTION
VERIFICATION
DIAGNOSIS
RESOLUTION
CONFIG MODEL
ADMIN TASK MODEL
ARCHITECTURE MODEL
605
606
PERFORMANCE MODEL
SECURITY MODEL

FIG. 6A

TO FIG. 6D

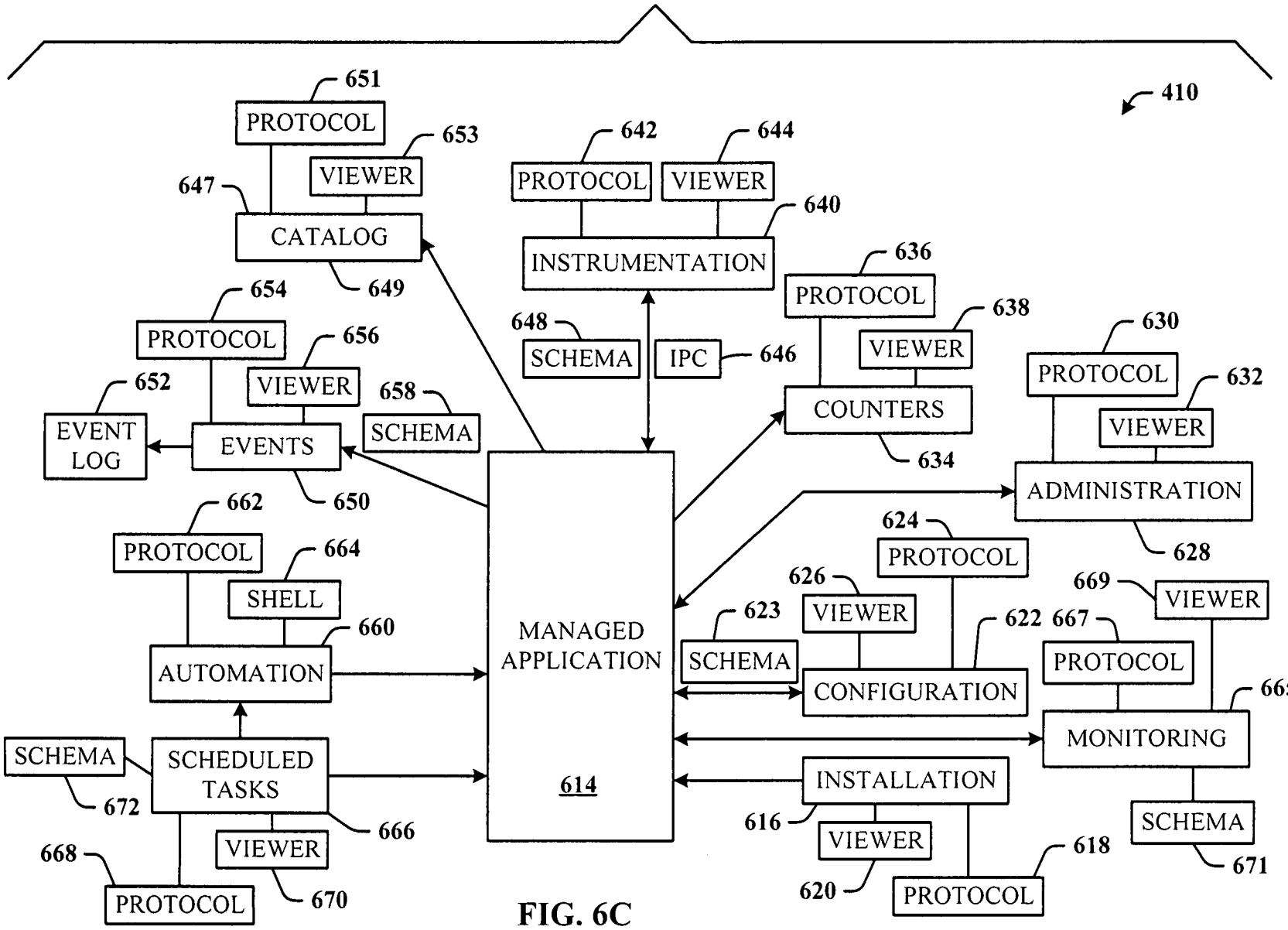
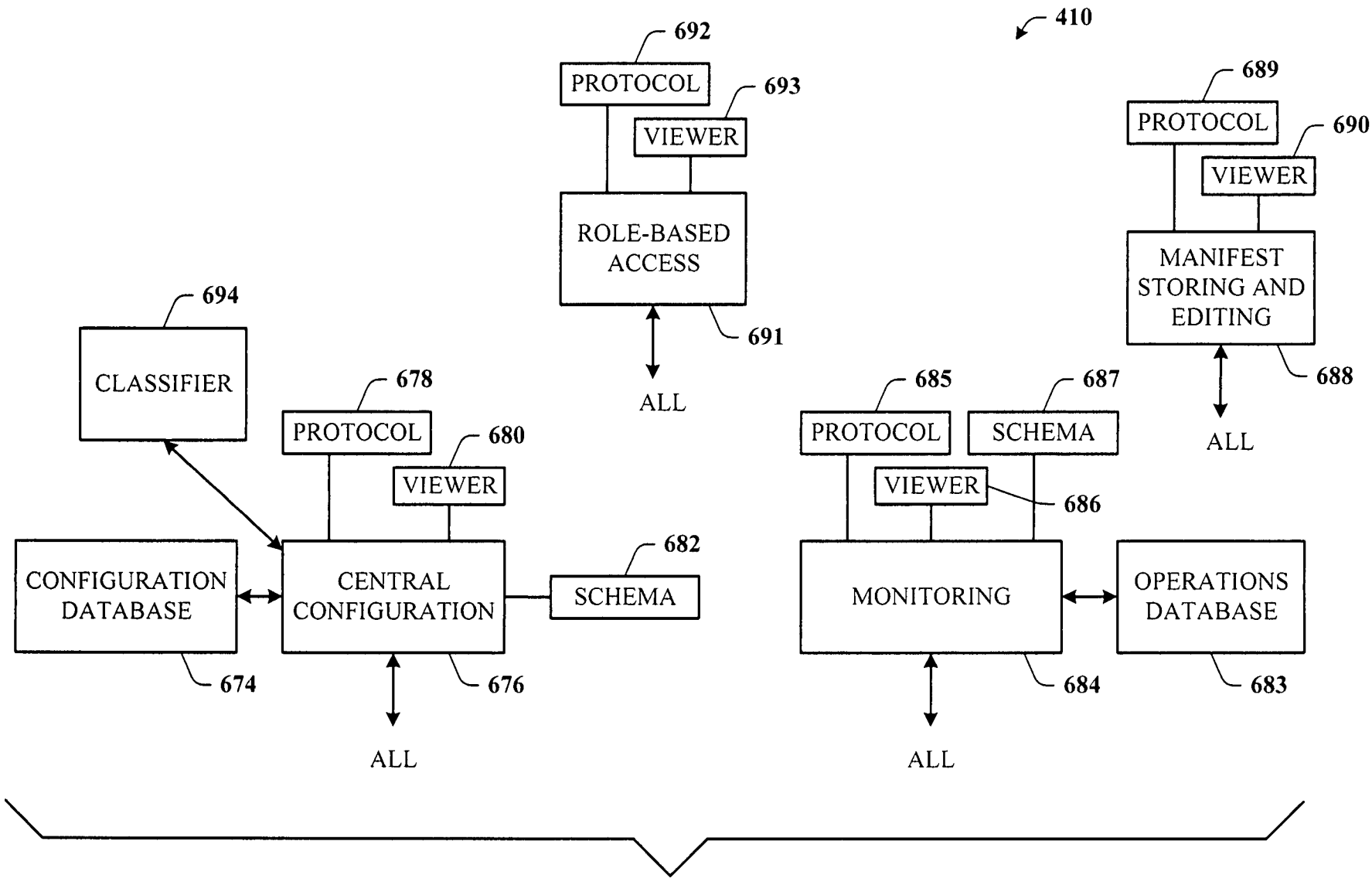


FIG. 6C



TO FIG. 6C

FIG. 6D

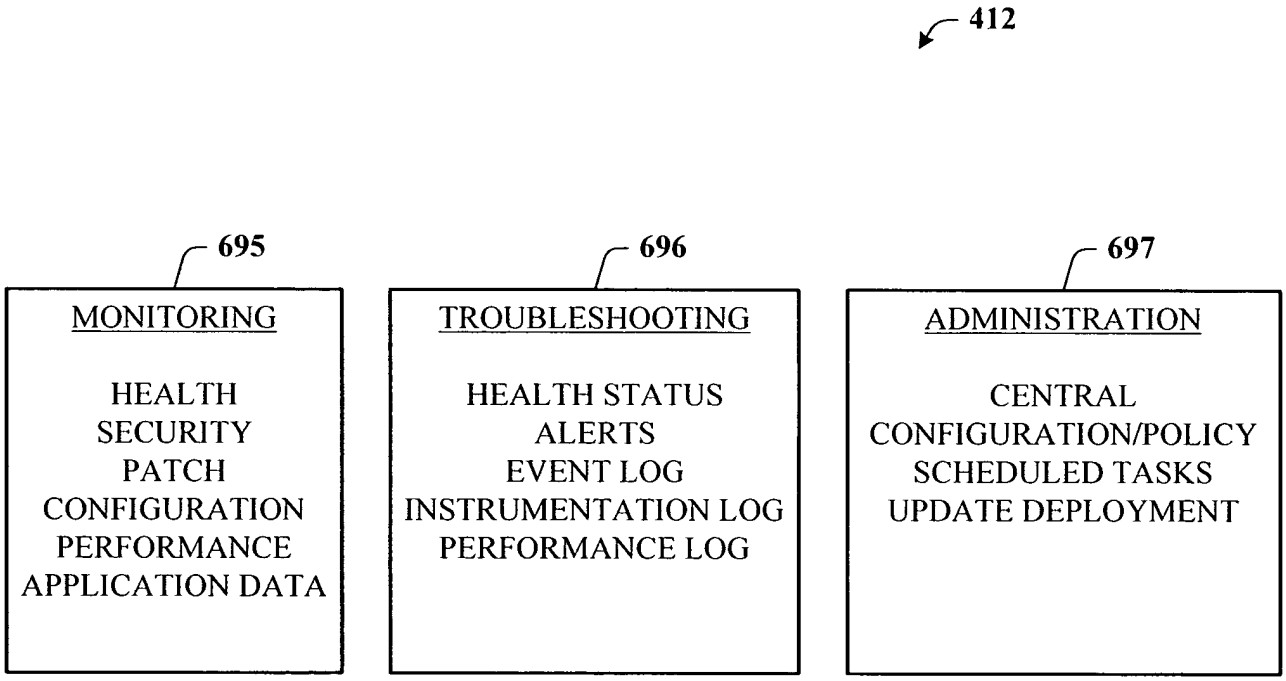

412
695
MONITORING
HEALTH
SECURITY
PATCH
CONFIGURATION
PERFORMANCE
APPLICATION DATA
696
TROUBLESHOOTING
HEALTH STATUS
ALERTS
EVENT LOG
INSTRUMENTATION LOG
PERFORMANCE LOG
697
ADMINISTRATION
CENTRAL
CONFIGURATION/POLICY
SCHEDULED TASKS
UPDATE DEPLOYMENT

FIG. 6E

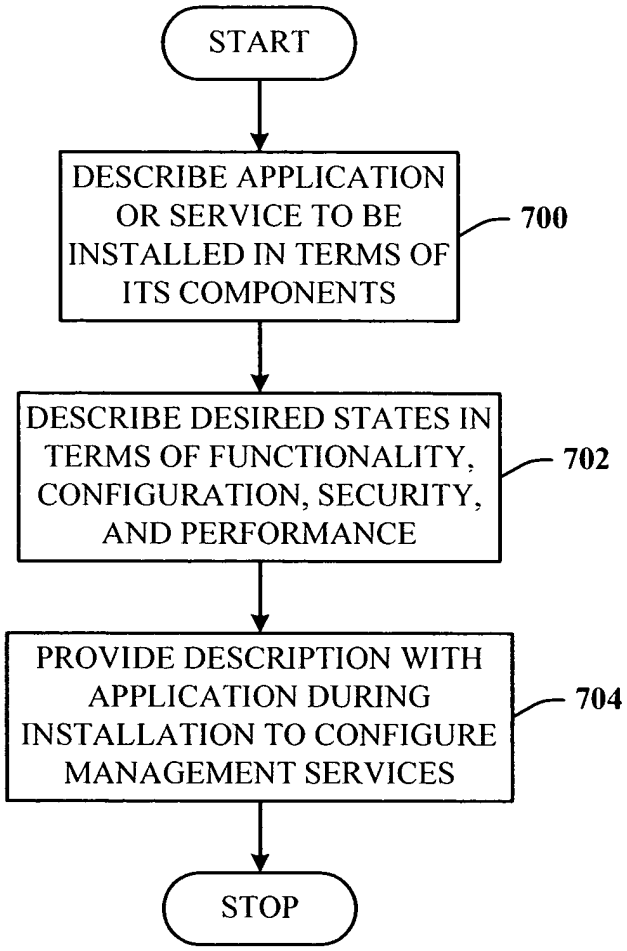

START
DESCRIBE APPLICATION OR SERVICE TO BE INSTALLED IN TERMS OF ITS COMPONENTS
700
DESCRIBE DESIRED STATES IN TERMS OF FUNCTIONALITY, CONFIGURATION, SECURITY, AND PERFORMANCE
702
PROVIDE DESCRIPTION WITH APPLICATION DURING INSTALLATION TO CONFIGURE MANAGEMENT SERVICES
704
STOP

FIG. 7

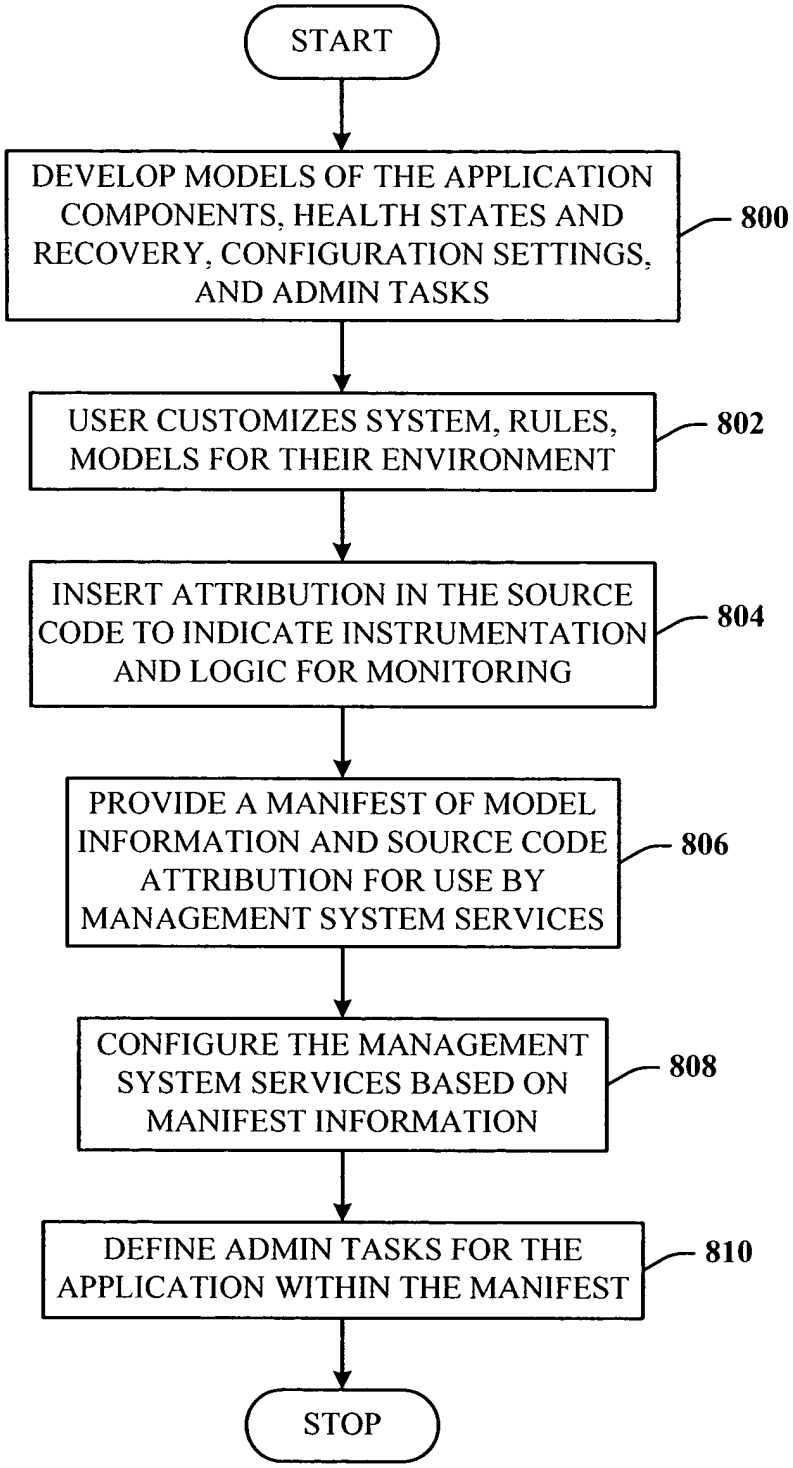

START
DEVELOP MODELS OF THE APPLICATION COMPONENTS, HEALTH STATES AND RECOVERY, CONFIGURATION SETTINGS, AND ADMIN TASKS
800
USER CUSTOMIZES SYSTEM, RULES, MODELS FOR THEIR ENVIRONMENT
802
INSERT ATTRIBUTION IN THE SOURCE CODE TO INDICATE INSTRUMENTATION AND LOGIC FOR MONITORING
804
PROVIDE A MANIFEST OF MODEL INFORMATION AND SOURCE CODE ATTRIBUTION FOR USE BY MANAGEMENT SYSTEM SERVICES
806
CONFIGURE THE MANAGEMENT SYSTEM SERVICES BASED ON MANIFEST INFORMATION
808
DEFINE ADMIN TASKS FOR THE APPLICATION WITHIN THE MANIFEST
810
STOP

FIG. 8

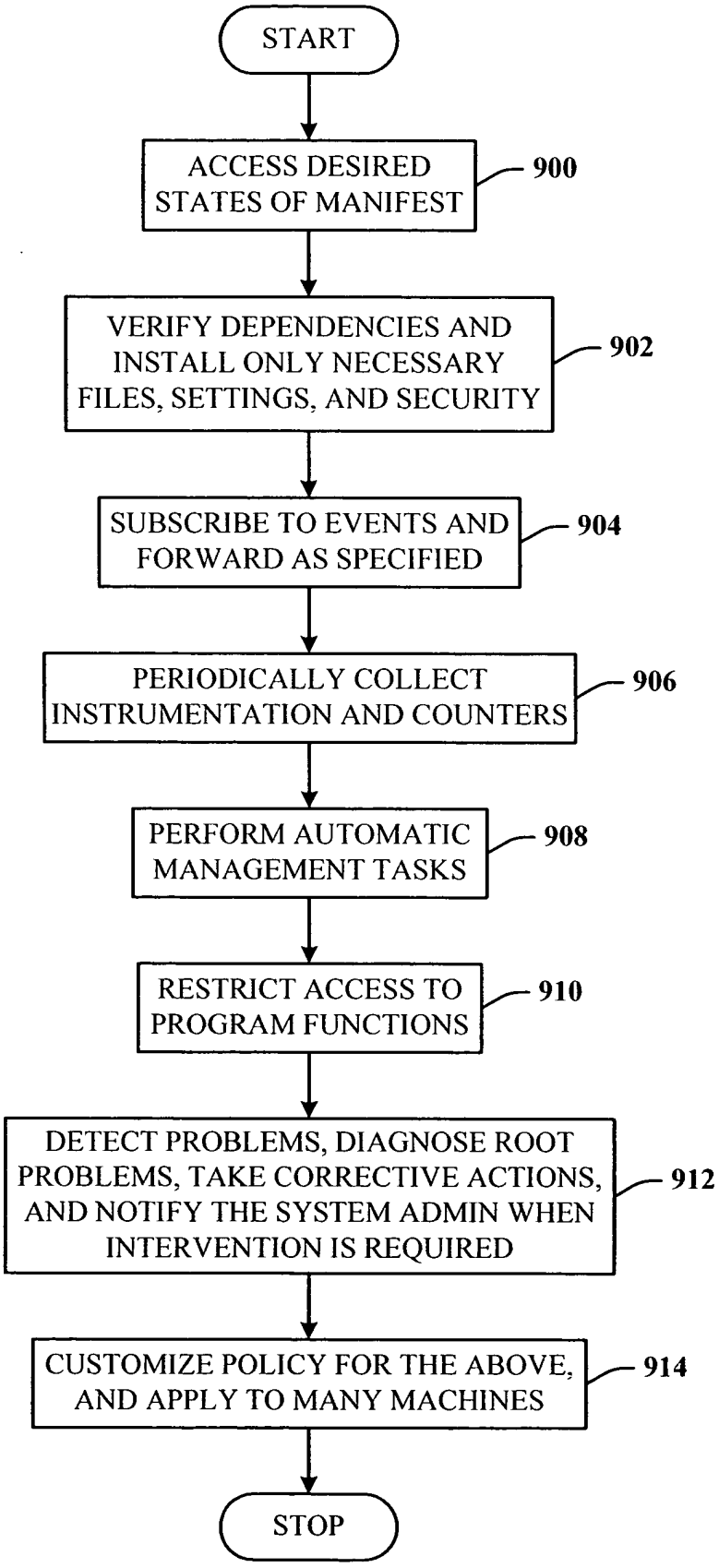

START
ACCESS DESIRED STATES OF MANIFEST
900
VERIFY DEPENDENCIES AND INSTALL ONLY NECESSARY FILES, SETTINGS, AND SECURITY
902
SUBSCRIBE TO EVENTS AND FORWARD AS SPECIFIED
904
PERIODICALLY COLLECT INSTRUMENTATION AND COUNTERS
906
PERFORM AUTOMATIC MANAGEMENT TASKS
908
RESTRICT ACCESS TO PROGRAM FUNCTIONS
910
DETECT PROBLEMS, DIAGNOSE ROOT PROBLEMS, TAKE CORRECTIVE ACTIONS, AND NOTIFY THE SYSTEM ADMIN WHEN INTERVENTION IS REQUIRED
912
CUSTOMIZE POLICY FOR THE ABOVE, AND APPLY TO MANY MACHINES
914
STOP

FIG. 9

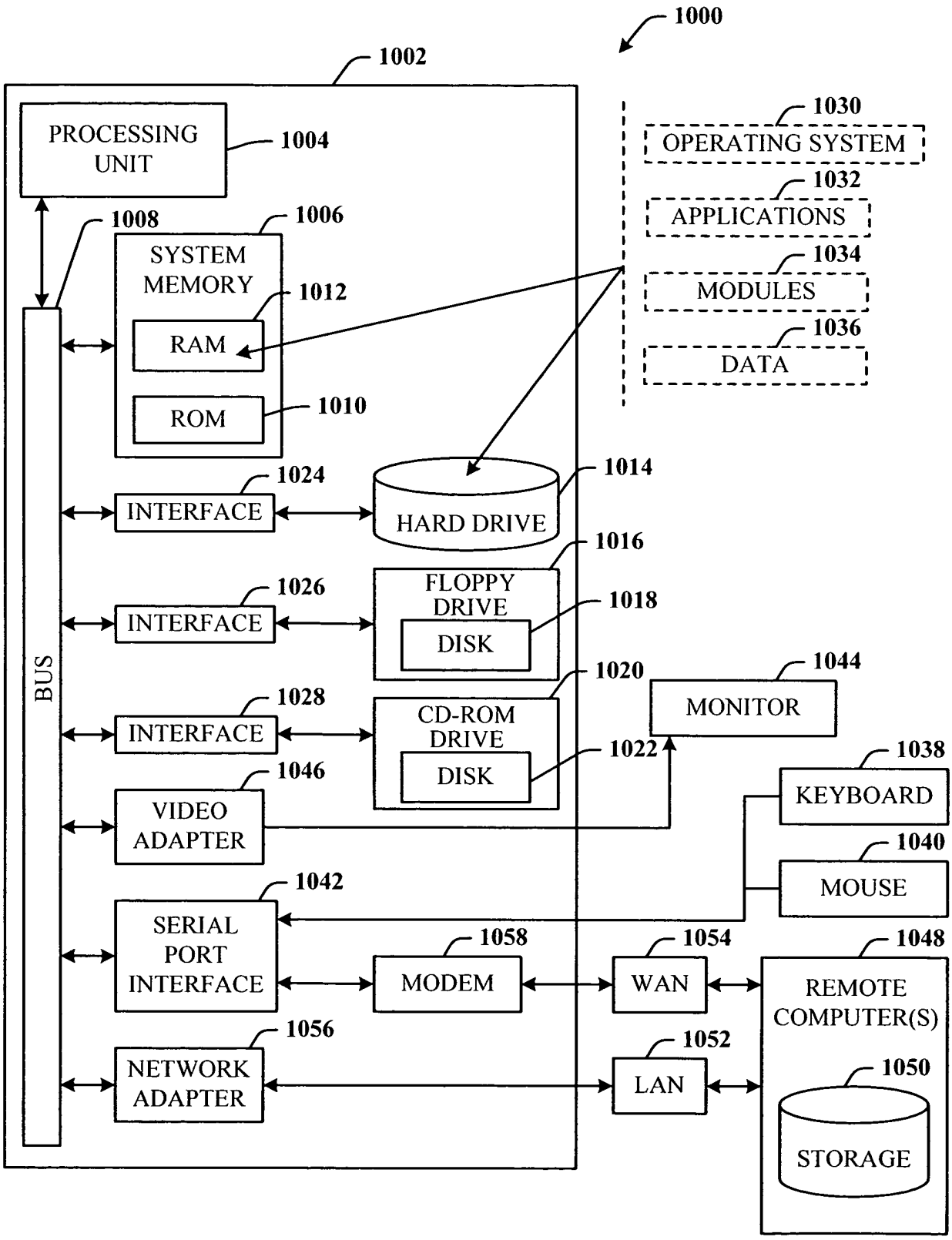

1000
1002
PROCESSING UNIT
1004
1008
1006
SYSTEM MEMORY
1012
RAM
ROM
1010
BUS
1030
OPERATING SYSTEM
1032
APPLICATIONS
1034
MODULES
1036
DATA
1024
INTERFACE
HARD DRIVE
1014
1026
INTERFACE
FLOPPY DRIVE
1016
DISK
1018
1028
INTERFACE
CD-ROM DRIVE
1020
DISK
1022
1044
MONITOR
1046
VIDEO ADAPTER
1038
KEYBOARD
1040
MOUSE
1042
SERIAL PORT INTERFACE
1058
MODEM
1054
WAN
1048
REMOTE COMPUTER(S)
1056
NETWORK ADAPTER
1052
LAN
1050
STORAGE

FIG. 10

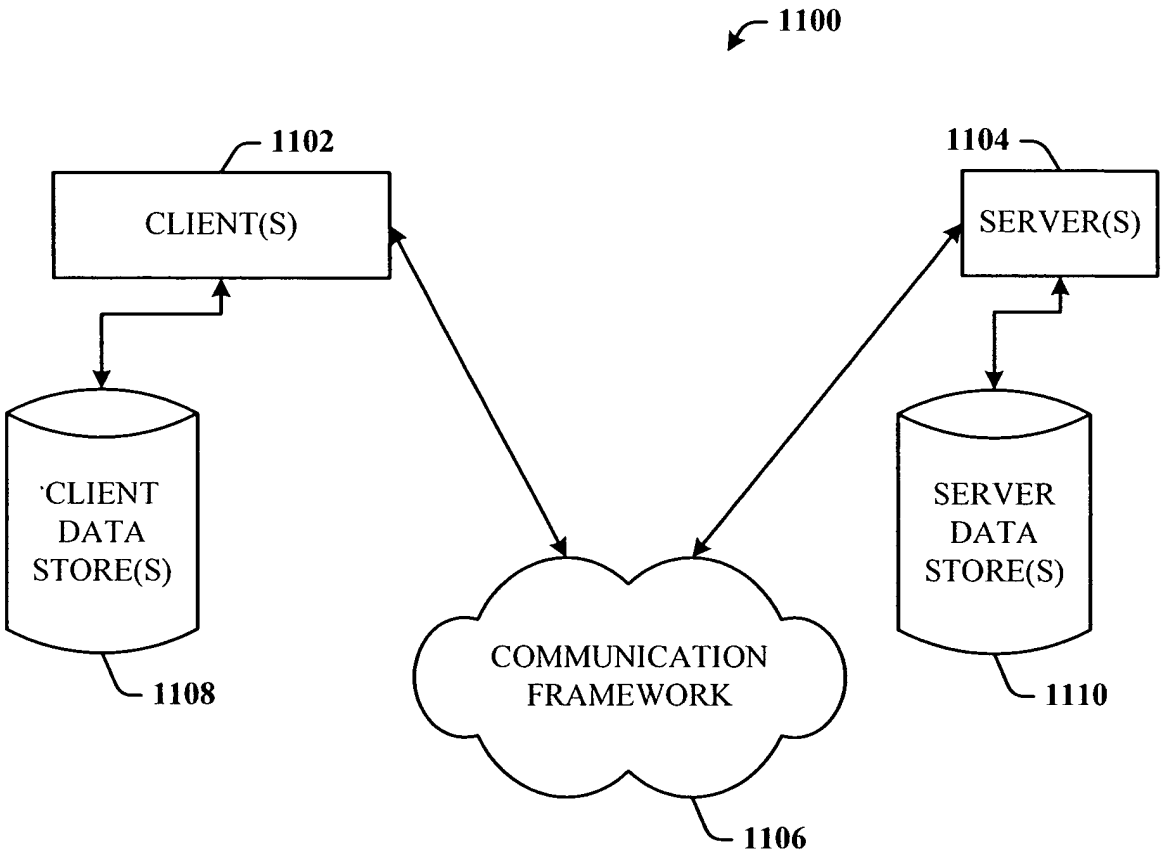

1100
1102
CLIENT(S)
1104
SERVER(S)
CLIENT DATA STORE(S)
1108
COMMUNICATION FRAMEWORK
1106
SERVER DATA STORE(S)
1110

FIG. 11